Serial No. 10/645,814

CLAIM LISTING:

1. (Currently amended) A system for exerting a compressive force on an exterior treatment portion of a user's body comprising the user's thighs in synchrony with the heart beat of the user, comprising:

a covering member for covering the treatment portion, said covering member comprising a garment enclosing at least the user's thighs; and

~~an~~ a plurality of electroactive polymer (EAP) actuators ~~actuator~~ operably connected to the covering member, wherein said electroactive polymer actuators ~~actuator comprises~~ comprise an electroactive polymer member, a counter electrode and an electrolyte-containing region disposed between the electroactive polymer member and the counter electrode, wherein said EAP actuators extend circumferentially around the user's thighs in multiple rows, and wherein EAP actuators in adjacent rows are offset circumferentially with respect to one another.

2. (Currently amended) The system of claim 1 wherein the EAP actuators are ~~actuator is~~ rigidly connected to the ~~covering member~~ garment.

3. (Currently amended) The system of claim 2 wherein the EAP actuators are ~~actuator is~~ connected to the ~~covering member~~ garment by adhesive.

4. (Currently amended) The system of claim 2 wherein the EAP actuators are ~~actuator is~~ stitched to the ~~covering member~~ garment.

5. (Currently amended) The system of claim 2 wherein the EAP actuators are ~~actuator is~~ woven into the ~~covering member~~ garment.

6. (Currently amended) The system of claim 1 and further comprising: a controller operably coupled to the EAP actuators ~~actuator~~ to provide a drive signal to drive actuation of the EAP ~~actuator~~ actuators.

7. (Currently amended) The system of claim 6 wherein the ~~covering member~~ garment is flexible such that actuation of the EAP actuators ~~actuator~~ drives deformation of the ~~covering member~~ garment.

8. (Original) The system of claim 7 and further comprising: a heart sensor sensing a sinus rhythm of the heart and providing a heart sensor signal indicative of the sinus rhythm.

9. (Original) The system of claim 8 wherein the controller is configured to provide the drive signal based on the heart sensor signal.

10. (Original) The system of claim 9 and further comprising: a feedback component sensing a feedback characteristic and providing a feedback signal indicative of the sensed feedback characteristic.

11. (Original) The system of claim 10 wherein the controller is configured to provide the drive signal based on the feedback signal.

12. (Original) The system of claim 11 wherein the feedback component comprises: a metabolic sensor sensing a metabolic characteristic and providing the feedback signal based on the metabolic characteristic.

13. (Original) The system of claim 11 wherein the feedback component comprises: a blood flow sensor.

14. (Original) The system of claim 11 wherein the feedback component comprises: a blood pressure sensor.

15. (Cancelled)

16. (Original) The system of claim 6 wherein the controller is configured to provide the drive signal to exert counterpulsation force on the treatment portion.

17. (Cancelled)

18. (Currently amended) A counterpulsation apparatus, comprising: a garment enclosing at least the thighs of a user; and ~~an~~ a plurality of electroactive polymer (EAP) ~~actuator~~ actuators connected to the garment, wherein said electroactive polymer actuators comprise ~~actuator comprises~~ an electroactive polymer member, a counter electrode and an electrolyte-containing region disposed between the electroactive polymer member and the counter electrode, wherein said EAP actuators extend circumferentially around the user's thighs in multiple rows, and wherein EAP actuators in adjacent rows are offset circumferentially with respect to one another.

19. (Cancelled)

20. (Currently amended) The counterpulsation apparatus of claim ~~19~~ 18 wherein the garment is formed of a fabric material.

21. (Original) The counterpulsation apparatus of claim 20 wherein the plurality of EAP actuators are woven into the fabric material.

22. (Original) The counterpulsation apparatus of claim 20 wherein the plurality of EAP actuators are stitched to the fabric material.

23. (Original) The counterpulsation apparatus of claim 20 wherein the plurality of EAP actuators are connected to the fabric material with adhesive.

24. (Currently amended) The counterpulsation apparatus of claim ~~19~~ 18wherein the garment comprises multiple layers of fabric material and wherein the plurality of EAP actuators are disposed between the layers.

25. (Currently amended) A method of exerting pressure on an external treatment area of a

patient comprising the patient's thighs, comprising: providing a garment to cover the treatment area; and actuating electroactive polymer (EAP) actuators connected to the garment in synchrony with the heart beat of the user, wherein said electroactive polymer actuators comprise an electroactive polymer member, a counter electrode and an electrolyte-containing region disposed between the electroactive polymer member and the counter electrode, wherein said EAP actuators extend circumferentially around the user's thighs in multiple rows, and wherein EAP actuators in adjacent rows are offset circumferentially with respect to one another.

26. (Original) The method of claim 25 and further comprising: sensing a heart beat of the patient and providing a heart beat sensor signal indicative of the sensed heart beat.

27. (Original) The method of claim 26 and further comprising: actuating the EAP actuators to exert counterpulsation pressure based on the heart beat sensor signal.

28. (Original) The method of claim 27 and further comprising: sensing a biological characteristic indicative of an efficaciousness of the counterpulsation pressure and providing a biological sensor signal indicative of the sensed characteristic.

29. (Original) The method of claim 28 wherein actuating the EAP actuators comprises: actuating the EAP actuators based on the biological sensor signal.

30. (Previously presented) The system of claim 1, wherein the electroactive polymer actuator comprises a conducting polymer.

31. (Previously presented) The system of claim 1, wherein the electroactive polymer actuator comprises a conducting polymer selected from polyaniline, polypyrrole, polysulfone, polyacetylene and combinations thereof.

32. (Previously presented) The counterpulsation apparatus of claim 18, wherein the electroactive polymer actuator comprises a conducting polymer.

33. (Previously presented) The counterpulsation apparatus of claim 18, wherein the electroactive polymer actuator comprises a conducting polymer selected from polyaniline, polypyrrole, polysulfone, polyacetylene and combinations thereof.

34. (Previously presented) The method of claim 25, wherein the electroactive polymer actuators comprise a conducting polymer.

35. (Previously presented) The method of claim 25, wherein the electroactive polymer actuators comprise a conducting polymer selected from polyaniline, polypyrrole, polysulfone, polyacetylene and combinations thereof.